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NATURALIST NOTEBOOK

DECEMBER 1971 VOLUME VII NO. 10

THAMES SCIENCE CENTER, INC.
GALLOWS LANE
NEW LONDON, CONNECTICUT 06320

FRONT COVER
"RED SQUIRREL"
Photo from the Audubon Wildlife Film series.

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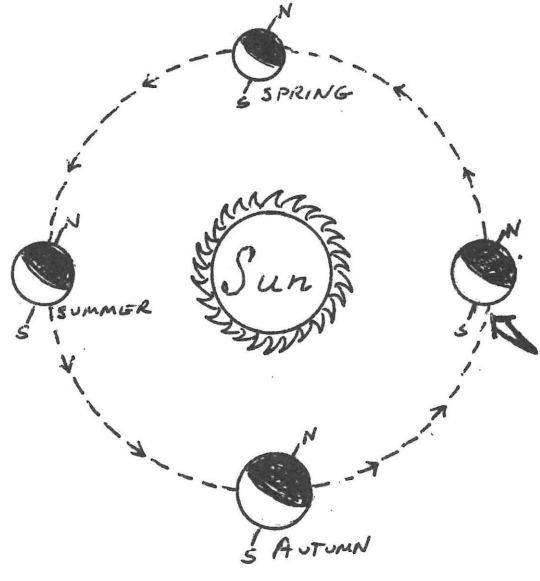
DECEMBER

THE MONTH OF THE WINTER SOLSTICE

On December 22, the vertical rays of the sun will reach the southernmost point on the earth at 7:24 A.M. Winter officially begins in the northern hemisphere while summer starts in the southern hemisphere. This is known as the Winter Solstice, from the Latin roots for the words *sun* and *stand still.*

The earth makes one complete revolution around the sun in the course of a year. As the earth travels in its orbit, the sun seems to move its position. In the northern hemisphere, the sun seems to rise lower in winter and higher in summer. This is because the earth is tilted about 23 degrees on its axis (or from a line perpendicular to its path around the sun), so that in winter the northern hemisphere is tilted away from the sun and in summer toward the sun.

The Winter Solstice, indicated by the arrow, is the point at which the sun seems to start back in the opposite direction toward the equator after standing still for several days. After December 23, the period of daylight begins to lengthen each day until the Summer Solstice, on June 21.



THE DECEMBER CALENDAR

December is the month of clear, sparkling days and early dusks.

December 2 . . . The full Beaver Moon.

December 2-17 . . . The earliest sunsets of the year occur, at 4:23 P.M.

December 7 . . . Be alert for northern visitors such as redpolls, crossbills and pine grosbeaks.

December 11 . . . Jupiter rises 7:05 A.M.

December 12 . . . The first snowfall last year was on this weekend.

December 13 . . . Chanukah.

December 15 . . . Watch for snow buntings and Lapland longspurs on the outer beaches.

December 17 . . . New Moon.

December 19-23 . . . The shortest days of all the year—9 hours and 4 minutes.

December 22 . . . Winter begins at 7:24 A.M.

December 24 . . . Reindeer are reported plentiful after dark.

December 25 . . . Happy Christmas to all!

December 27 . . . Robin was named our national bird in 1960. Have you seen any wintering over?

December 29 . . . Annual New London Christmas Bird Count begins before the sun rises at 7:16 (see page 16).

December 31 . . . The full Wolf Moon.

Icy and cruel,
the year-end rule.

DREAMING OF A GREEN CHRISTMAS?

Balsam Fir
needles flat, unstalked, long-1¼"
whitish beneath, cones
upright

Text and Illustrations
by Barbara Kashanski

The Christmas season is upon us, and we start to think about decorating our homes and doorways with wreaths and evergreen arrangements.

The use of evergreens during winter holidays dates way back to pagan times when Romans presented their friends with green branches at the Saturnalia, a festival held December 17 honoring Saturn, god of harvest. The Romans believed that the strength of the tree, from which the branches came, was passed along to the receiver of this gift.

The Druids, who were priests of ancient Celtic Great Britain and Gaul, believed that forest spirits lived in trees. They honored these spirits by placing evergreens and mistletoe on their altars. So the use of greens at this season of the year dates way back before the days of Christianity, and today evergreens are still an important part of our holiday festivities.

There is one very big difference between today and yesteryear that we should keep in mind when we go collecting evergreens to decorate our homes. The big difference is the number of people who pick greens now as compared to then. Also, we must remember the many, many acres of natural habitat that have been destroyed for shopping centers, housing developments, and highways — and the end of this destruction is not in sight!

Berries bright red

Black Alder or Winterberry

Mountain Laurel

If all of us pick from our remaining woodlands all the evergreens we want, there shortly will be none left to gather or even *see* in the years to come.

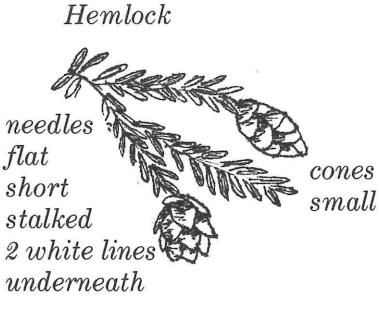
Among the familiar evergreens that need protection, according to the preservation list put out by the Federated Garden Clubs of America, are mountain laurel (State protected); black alder; the club mosses, including the two kinds most well known and sought after by green gatherers, which are ground cedar *(Lycopodium complanatum)* and ground pine *(Lycopodium obscurum)*.

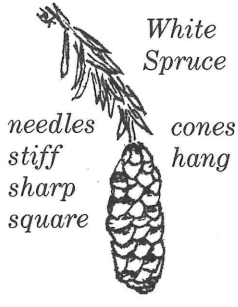
If you are planning to gather your own greens, please consider the following recommendations:

Ground Pine—tree shaped—needle-like

Ground Cedar—flat topped scaly-looking

1. Don't pick more than you need.
2. If you plan to pick on land other than your own, BE SURE TO HAVE THE OWNER'S PERMISSION.
3. Do not tear or break off or pull up by the roots. Use a sharp knife or pruning shears.
4. Be sure you know what you are picking—leave all scarce material for future generations to enjoy in its natural habitat.
5. Let common sense and conservation be your guides.





The evergreens not in danger at the moment are Hemlock, White Pine, Arbor Vitae, Balsam Fir, Red Cedar, White Spruce, and Juniper. By using these greens with their lovely cones and berries, beautiful wreaths, sprays, and table decorations can be made. By not using the scarce evergreens, you will be insuring the year-round beauty of our woodlands for yourself, your children, and for generations to come.

A MERRY GREEN CHRISTMAS TO ALL!

WINTER WANDERINGS

Text by Stephen Syz
Photograph by Charles N. Pratt

Now that the air has become crisp and leaves have fallen to the forest floor, warm-blooded chipmunks and woodchucks and cold-blooded frogs, snakes and turtles have moved into their underground winter homes to snooze. As though taking care of these animals, Nature will soon cover the ground with a blanket of snow. The deep white mantle in the woods is such a good insulator that it may keep the soil temperature above freezing! Icy winds and sub-zero temperatures that freeze windswept fields solid are unable to reach down to the soil of the forest, where animals are asleep.

Hibernators are not the only ones to benefit from snow's protection. Insect eggs deposited among the leaves and earthworms are able to stay alive, and very small organisms such as bacteria, fungi and some insects continue their work, breaking down leaves into soil. Tree roots too continue to grow throughout the winter in the ground.

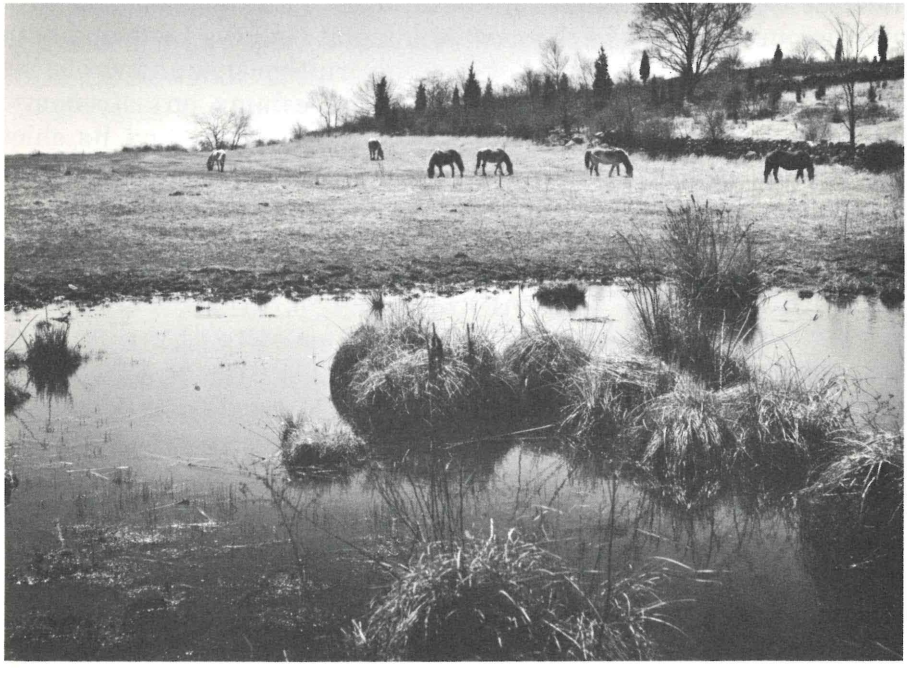
Many animals do not hibernate and are active during the winter. Squirrels, mice, rabbits and deer run about on top of the snow digging holes here and there in search of seeds, acorns, and at times young twigs. Others, like the ruffed grouse, tunnel into the snow for protection at night. The snow itself is a fine place in which mice and shrews also build long protected tunnels and then run about under the snow looking for roots, bark and seeds to eat.

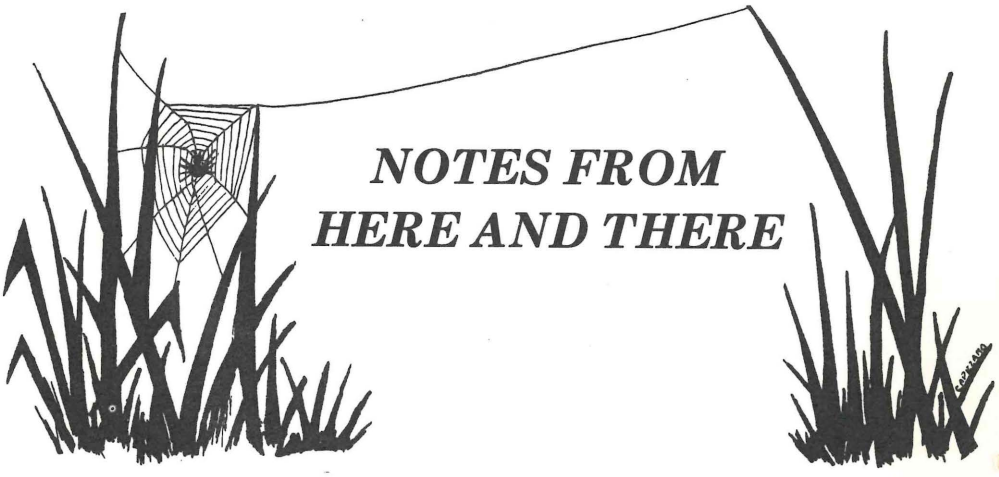
Perhaps the most fascinating quality of snow is that it records the night activity of non-hibernating animals on their search for food that one would not ordinarily see. The margins of fields are

replete with such tracks because they contain plants which are a good food source to wild life. Barberries, honeysuckle, and many edible seedlings grow where the forest meets the field. The importance of such areas can be understood when one realizes that bobwhite quail, opossum and cardinals, to name a few which live mainly on marginal areas, have in recent times increased their ranges into areas cleared by farming.

On a clear winter day, the snow-covered woods and old fields of the 260-acre Haley Farm State Park in Groton abound with signs of animal activity, and I recommend a winter visit to this rare mixture of habitats which also includes ponds and salt marsh.

To get there, turn off of Route 1 at the top of Fort Hill in Groton onto the Groton Long Point Road. Go past Fitch High School down to the first right, Brook Street, and when you see the water of Palmer Cove, turn right again and go to the end. Climb over the fence and set off in any direction. How many signs of winter activity can you discover? GOOD EXPLORING!





NOTES FROM HERE AND THERE

THE REV. CLARENCE R. WAGNER of Waterford died unexpectedly on Sunday, October 31st. Long a friend of the Center, our library was named after him, and Mr. Wagner joined in the dedication ceremonies just a year ago. Our warmest sympathy goes to Mrs. Wagner and her family.

MARTHA CAPIZZANO AND ROBERT DYER leave the Science Center as curator and naturalist. Both have worked hard during our first year in the new building at Gallows Lane and both will be missed. Bob was an outstanding ornithologist and wrote the "Field Notes," together with his familiar column on astronomy. Martha has been editor of the *Naturalist Notebook* and its chief illustrator and in both capacities set a new standard for this magazine. "George," as she likes to be called, was the creator and advisor of the Junior Curator program, and an outstanding teacher in our environmental education program. We wish them both success.

NEW NATURALIST ARRIVES. Frank R. Haeni, Director of the Weinberg Nature Center and Village Naturalist in Scarsdale, New York joins the staff as naturalist. Frank comes with an impressive background. As a bird bander, he spent eight weeks in 1967 as the Mississippi Flyway Council representative from Wisconsin and in Scarsdale he has developed new programs in environmental education for the Village and the Center. Frank and his wife Kathy—who is also a professional naturalist—will live in the Red House in the Peace Sanctuary in Mystic.

OTHER STAFF CHANGES: Mrs. William S. Morgan will be in charge of the Museum Shop. Ann Morgan was formerly head of the Connecticut College Book Store and has already begun to put this experience to work in our store. Mrs. John Merrill is the new editor of the *Naturalist Notebook*, and Mrs. J.A. Michael Morse will be in charge of Volunteer Services so that Mrs. John Kashanski can devote her time completely to our expanding field trip program. All three are Directors of the Center.

AS OF OCTOBER 1, 1971 IT IS NOW ILLEGAL to sell any parts or products in Connecticut from the following animals: leopards, snow leopards, clouded leopards, tigers, cheetahs, alligators or any species of crocodiles, vicunas, red wolf, polar bear, Atlantic hawkbill turtle, jaguar, ocelots, and margay. Check in your local stores and report any illegalities to the Connecticut Audubon Council, Orchard Hill Road, Harwinton, telephone 1-482-4173.

THE CONNECTICUT ASSOCIATION FOR ENVIRONMENTAL EDUCATION was voted into being through incorporation by the Nature Center Directors at their November 1st meeting. The new organization will facilitate communication of new ideas and information, share successful methods of operation, and enable the Nature Centers and their Directors to speak as one both in Hartford and throughout the state. The officers are: Marshall T. Case, Director of the Larsen Bird Sanctuary; Vice President, Jean Curtis, Director of the New Britain Children's Museum; Secretary, John F. Gardner, Director of the Mid-Fairfield County Youth Museum; and Treasurer, Robert S. Treat of our Science Center.

BIRD BANDING AT THE THAMES SCIENCE CENTER

Text by Frank R. Haeni
Photograph by K. Haeni

How long do birds live? Where do birds migrate in the spring, fall, and winter? How do we know that birds do migrate? What is migration? How do we know that the blue jay captured at the Center is the blue jay that was here last December? Answers to these questions, plus many more, are being answered by bird banding.

You may be walking along one of the trails at the Center when you come across a large nylon net with a catbird or a warbler entangled in it. Or you may find a black-capped chickadee trapped in a wire metal cage at our feeding station. These are just two of the many methods of capturing migratory birds.

The bands or "rings" are made of aluminum, are circular in shape, and have the following abbreviated information on each band: Advise F. & W. Serv. Wash.D.C., U.S.A. In addition, each band has a serial number on it; for example, 123-45678.

After a bird is captured, the species, band number, wing and tail length (in millimeters), weight (in grams), sex, date and time of capture is recorded in my bird banding book. The bird is then released. The information is then sent to the bird banding office in Laurel, Maryland, where all the data is transferred to IBM tapes.

When another bander or layman finds a banded bird, the band number, date, location and condition of the bird is sent to the banding laboratory. At the laboratory the information about the bird is retrieved from the computer. The bander is notified that his banded bird was found by John . Doe of Little Rock, Arkansas, and John Doe is notified that the bird he found was banded by Frank R. Haeni at the Thames Science Center, New London, Conn., November 1, 1971.

About one million birds are banded each year on the North American continent. However, only a small percentage of the banded birds are ever reported to the banding office. The major reason for this is that many people find a banded bird but fail to send the information in to the banding office. Every person who sends in a band number is providing valuable information to biologists who are studying birds.

The first bird band ever to be recovered was found on a grey heron in Germany in 1710. The heron had been banded in Turkey several years before recapture. Bird banding in America started in 1909 when the American Bird Banding Association was formed. Biologists in the U. S. Fish and Wildlife Service took over the banding responsibilities in 1920. Since 1920, banding of migratory birds in the United States and Canada has been under the joint direction of the Federal Governments of the two countries.

Banding has revealed that most birds live less than two years. However, there are birds that live for many years after their capture. The bird band office reports: a Caspian tern was recovered 26 years after banding; a ring-billed gull and an osprey lived 21 years; a purple martin lived 14 years; a black-capped chickadee lived 9 years; and a blue jay and a chimney swift lived 14 years. Several mallards and pintails have survived more than 20 years.

Occasionally birds wander far from their "natural" home ranges. During my banding operations at the Weinberg Nature Center in Scarsdale, N. Y., I captured a green-tailed towhee. The green-tailed towhee is normally found in the states of Washington, Oregon and California. Without the aid of my traps, I would not have been able positively to identify the bird. This is only the second record of the green-tailed towhee in New York. It has never been reported in Connecticut.

Not everyone can band birds, nor should they be able to. A person must be 18 years old, be recommended by three other banders or noted ornithologists, and have a particular study or purpose in order to obtain a federal bird banding permit from the U. S. Fish and Wildlife Service. The permit is only valid if the person also obtains a permit from the state in which he is banding. Detailed records have to be kept by each bander.

Although the bands are given free of charge to the banders, they must buy other equipment themselves. And, of course, they are not compensated by the government for their service.

If you find a bird that has been banded, do not remove its band if the bird is alive but send the band number (or the band, if the bird is dead) to:

Bird Banding Laboratory
Migratory Bird Populations Station
Laurel, Maryland 20810, USA

State how the bird was obtained, the exact location, date and your name. Or you can contact me at the Science Center and I will send the information in for you. By doing this, you will have contributed to the advancement and understanding of our feathered friends.

FROM THE DIRECTOR . . .

by Robert S. Treat

"At the heart of this concern for the environment lies our concern for the human condition: for the welfare of man himself, now and in the future. We should strive for an environment that not only sustains life, but enriches life, harmonizing the works of man and nature for the greater good of all."

President Richard M. Nixon — August, 1970

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Each year the National Wildlife Federation publishes an Environmental Quality Index covering water, air, soil, living space, wildlife, timber, minerals, recycling wastes, population and environmental awareness. Taken from the *National Wildlife* November, 1971 issue, here is the EQ Index for 1971 based on a scale of 0-100 with 100 excellent and zero a disaster:

WATER: Water Quality Index stays at 40. No better in spite of mammoth cleanup plans, but no worse. Industry spoils 65% of your water, municipalities 20% and agriculture 15%. For example, there are 1,000 oil spills every year. How about your drinking water? A survey of 969 public water systems reveal 41% deliver water of inferior quality; 35% contain bacteria or chemicals exceeding safe limits; 9% are potentially dangerous; 79% are NOT inspected annually, and 77% of the water plant operators are poorly trained.

AIR: Air Quality Index shows that air is the lowest of any factor in the total EQ Index at 34. The pollutants are: *sulphur oxide* caused by electric plants and coal burning factories; *particulates* caused by smoke, soot, fly ash from factories; *carbon monoxide* caused by cars, buses and trucks; *hydrocarbons* caused by refineries and cars; *nitrogen oxides* caused by high-temperature combustion; and *photochemical oxidants* caused by sunlight on hydrocarbons and nitrogen oxides from engines.

WILDLIFE: The EQ Wildlife Index is 53 and the list of endangered species has jumped from 78 in 1968 to 101 in 1971. We lost a million acres of wildlife habitation in 1970 and another in 1971. Man is the villain as growing population puts pressure on wildlife. The EQ trend is down!

TIMBER: The Timber EQ Index is up to 76 as the cut of Forest Service lands was only 87% of the total allowable.

MINERALS: The Mineral EQ Index slips to 48 and the trend is down. One example: known natural gas reserves will last only 13 years, yet use is up 300% since 1950.

RECYCLING WASTES: The United States is the most wasteful nation in the world. The trend is up from a daily garbage load of 3 lbs. in 1920 to 61 lbs. in 1971 and a prediction of 8 lbs. in 1980. Use less and recycle more! It can be done. . . waste builds roads, garbage can be turned into profit through technology, and junk cars can help make new steel.

POPULATION: Although population growth has slowed in the U.S. that old bomb is still ticking away and conservative estimates show that America will add 75 million more people in the next 30 years. And what about the rest of the world? The total population in 1970 was 3.6 billion people, in 1980 it will be 4.5, in 1990 it will be 5.8 and in the year 2000 the world population is estimated to be 7.5. For contrast, in 1830 there were only 1.0 billion in the world.

• • • •

The National Wildlife Federation's 3rd Annual EQ Index stands at 55.5. There is a 1.5 loss from 1970, but it is smaller than the substantial loss in 1969. The EQ Trend is still headed DOWN and we have not turned the corner yet. However, the environmental awareness trend is up as more and more Americans demand a better environment.

FIELD NOTES

OCTOBER 10 — NOVEMBER 10

New London, Waterford: JUNCOES are in the area but not using the feeder much yet. A flock of migrating CHIPPING SPARROWS was seen at Harkness Oct. 21 and 22. Three COOT were on Lake Brandegee Oct. 27. A RED-BREASTED NUTHATCH was reported in Norwich and a late RED-WINGED BLACKBIRD in the Arboretum Nov. 4. On Nov 5 a PIED-BILLED GREBE was on the Arboretum pond and a WHITE-THROATED SPARROW and a pair of CARDINALS at the TSC feeder, while GOLDFINCHES were first noted at a feeder on Oil Mill Road. A PURPLE SANDPIPER was at Harkness Nov. 5, and BUFFLEHEAD were seen at Golden Spur Nov. 8. No winter finches reported as yet.

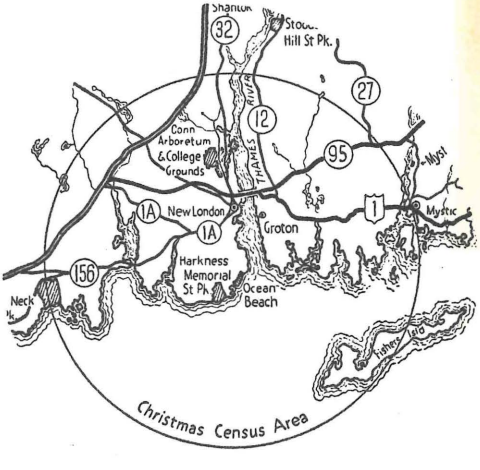
Mystic, Ledyard, Preston: BUFFLEHEAD arrived at Beebe Cove Oct. 13. The OSPREY migrated around Oct. 24 during a cold rainy weekend. The hawk watch reported in the last issue to be held then was rained out with only 3 hawks seen, although a COOPER'S HAWK was seen in Ledyard Nov. 4. A mammoth flock of RED-WINGED BLACKBIRDS, GRACKLES, and COWBIRDS estimates to be in the thousands poured across the sky at Preston Nov. 5. A RUBY-CROWNED KINGLET was seen in a Mystic yard Oct. 28 and 29. PIED-BILLED GREBES have been constant at Amos Lake in Preston for some time and two HORNED GREBES were seen there Nov. 3.

Rhode Island Shoreline: Two HERMIT THRUSHES were at Matunuck Oct. 13, where a late WHITE-EYED VIREO and a VESPER SPARROW were seen Oct. 15. The first large flock of RED-BREASTED MERGANSERS was at Weekapaug Oct. 20. Twelve PIPITS were in a field along with HORNED LARKS at Moonstone, where a COMMON GALLINULE was still on Oct. 22. Fifteen GANNETS were observed at Scarborough Beach Oct. 22 and during the stormy weekend of Oct. 24 observers tallied up to 600 coming through constantly in migration at Point Judith. They were still being seen there Nov. 7 when KITTIWAKES were spotted.

LONGSPURS were seen at Moonstone Oct. 24 and a flock of 600 CANADA GEESE was there Oct. 30. Heavy fog and rain evidently held back a flock of 10 COMMON EGRETS and a SNOWY EGRET on Nov. 1 at Quononchontaug, where 14 GREAT BLUE HERONS were on Nov. 9. SNOW BUNTINGS were widely reported: 20 at Point Judith and 1 at Scarborough on Nov. 3, 50-60 near Misquamicut Nov. 4, 10 near the Watch Hill Lighthouse Nov. 5, and a flock of 110 near Moonstone Nov. 7, when three SNOW GEESE were also seen. A WHITE-CROWNED SPARROW was at Weekapaug Nov. 5, and on the same date 25 YELLOWLEGS still remained at Quononchontaug where 36 GREEN-WINGED TEAL, 8 BLUE-WINGED TEAL, and PINTAILS were seen. Also observed near there on Nov. 7 was a flock of about 250 SCOTERS—all three varieties—along with a few OLD SQUAW and COMMON EIDER. RED THROATED LOONS were also noted.

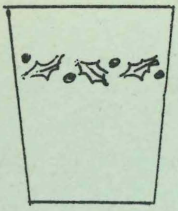
Contributors: Mr. & Mrs. K. Bates, G. Bissell, M. Capizzano, A. DeGange, R. Dyer, H. Gilman, H. Kelsey, B. Kashanski, M. McGregor, E. Saunders.

CHRISTMAS BIRD CENSUS



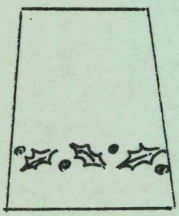
Bob Dewire will be heading New London area birders compiling the annual Christmas Count in conjunction with the National Audubon Society on Wednesday, December 29.

Reports from feeding stations are solicited to make the census as accurate as possible. If you feed birds and live within the boundaries of the New London census area (indicated in the map above), please report the species and the number of each species you see on the day of the census. Count the largest number of each observed at any one time. Make a positive identification before reporting a bird (if you aren't sure, don't count it). At the end of the day, phone in your report to 443-6314.



A CHRISTMAS TREE MOBILE

Cut along lines. Glue pieces back to back and ¼" apart, running black thread down center. Tie loop at top of thread and hang.



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JOSEPHINE S. MERRILL
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